Chapter 13

The *Chaîne Opératoire* Approach to Prehistoric Figurines: an Example from Dolnoslav, Bulgaria

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Introduction

The study of Balkan prehistoric figurines continues to suffer from two major and inter-related problems — a superfluity of interpretation and a lack of dynamics. At a time when meaning is at a premium, researchers are prone to ask 'What does this figurine mean?' or 'What does this figurine group mean?' These are vital questions but often researchers assume that the form in which a figurine was made remained the same through use and eventual deposition, unless it was accidentally broken during use and deposited in fragments because it was broken. This leads to a static picture of figurines, whose symbolism and meaning are treated as unchanging — a view that ignores one of the basic material qualities of figurines as images — their fractality (e.g. Bailey 2005; Nanoglou 2005). This view hinders the understanding of the meanings of figurines by providing a fundamentally flawed view of their life-histories. The challenge is to link the fluidity of figurine form with the changing significances that figurines carry throughout their lives. In this short contribution, we hope to stimulate discussion about the utility of the *chaîne opératoire* approach to prehistoric figurines. In our view, this approach provides a theory and a methodology for overcoming both of the problems outlined above.

André Leroi-Gourhan (1964) introduced the term '*chaîne opératoire*' to lithic studies — at the time, as with figurine studies now, a field dominated by typological studies but with new approaches competing for attention. After numerous developments, not least by Geneste (1985), the approach is now the mainstream way of creating rigorous interpretations of Palaeolithic lithic assemblages. In its essence, the *chaîne opératoire* seeks to define stages in the fabrication of a product, each of which can be recognized by diagnostic débitage.

In the absence of a reductive production strategy for figurines, the main difference in the figurine's *chaîne opératoire* consists of the inscription of each stage in its life-history on the figurine itself or on its constituent parts. Once the figurine's parts have been assembled (for discussions of the making of figurines from multiple parts, see references in Chapman 2000; Gheorghiu 2005, etc.), the complete figurine goes through a series of modifications before its final deposition or discard. It is the aim of the *chaîne opératoire* approach to identify the complete sequence of modifications that, collectively, make up a figurine's life-history. Since what we excavate is the final stage of the life-history of a figurine — its discard — the only material evidence we have to fill in the mid-life stages of a personal biography is what is inscribed on the figurine itself.

Our view, which we seek to demonstrate here, is that figurines change in significance — i.e. at different stages of their life-history, they change in respect of the generative principles used to order their making (e.g. structuring principles such as gender, sidedness, verticality, etc.). It should not be surprising that, with changes in their very form and nature, figurines should emphasize new symbolic aspects in relation to the humans who changed them.

The excavation contexts of figurines rarely, if ever, allow us to form a 'reflection' of the life-history of the figurine. Even less probable is the notion that a site figurine assemblage 'reflects' a 'living' assemblage of figurines. But the discard context is vital, since it provides a contextually-rich picture of how figurines were 'killed'. When examined at the site level, but also more generically, figurine life-histories tend to conclude in one of three different ways: A) the discard of complete figurines; B) the discard of parts of figurines that re-fit with other fragments discarded in

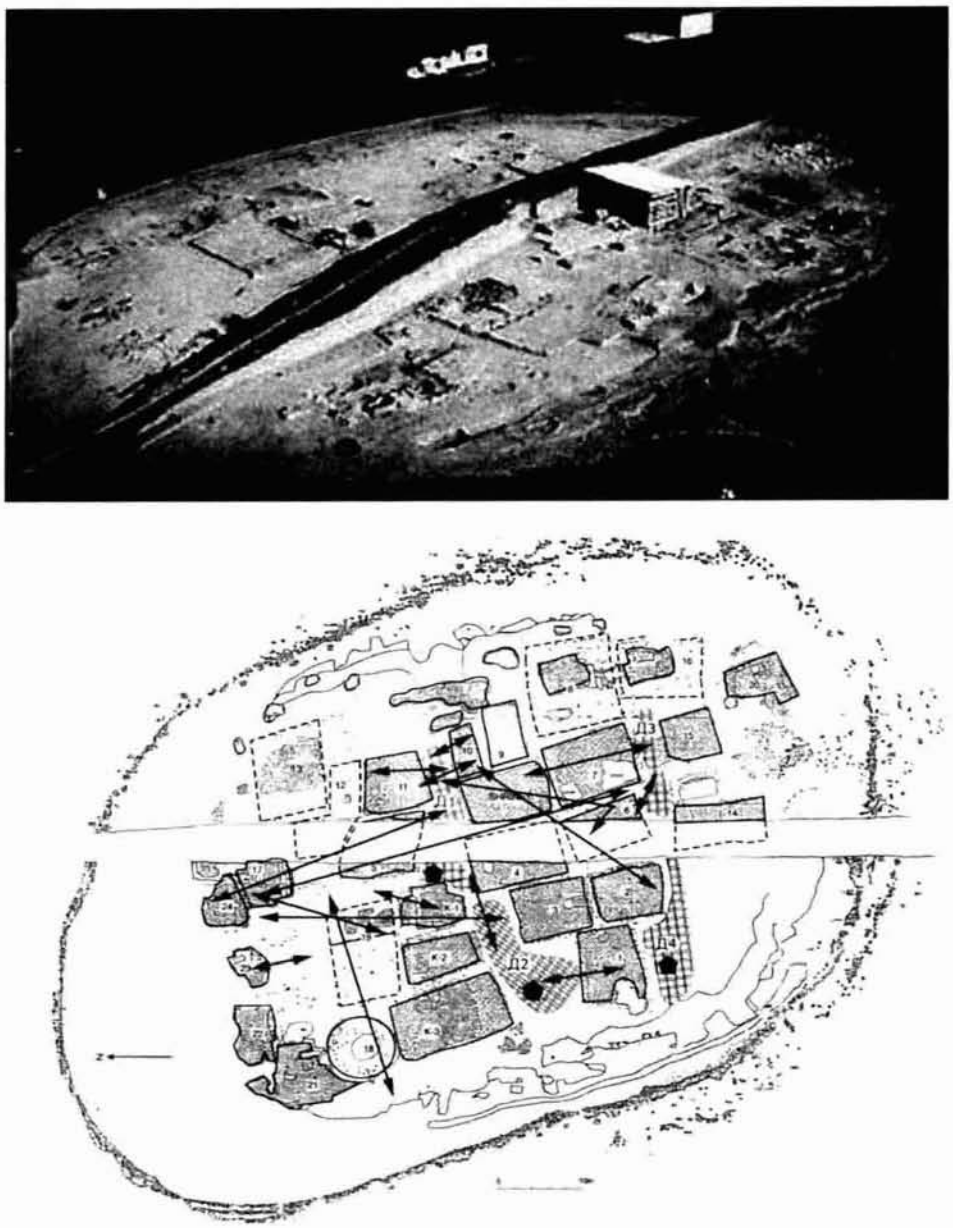

Figure 13.1. *Plan and aerial view of the Late Eneolithic occupation layer of Dolnoslav (Sources: upper — Raduntcheva 1996; lower — modified from Koleva 2002.)*

other parts of the same site; C) the discard of 'orphan' figurine fragments (*sensu* Schiffer 1987) — that do not re-fit with any other figurine fragment on the site but may re-fit with fragments discarded off-site (e.g. on another site). Each of these different end-results can be interpreted through the discussion of principles such as integration (the integration of the individual person, the household group, the lineage or the community) and enchainment (the creation of material links of exchange with other persons, either on site or between sites). But a richer body of data awaits careful examination of the figurines themselves in a study of their *chaînes opératoires*.

There is also an issue of representation that our research raises. The manner in which prehistoric figurines tend to be represented, by photographs or by single-face line drawings, makes it very difficult, if not impossible, to disentangle the life-history of a figurine. We modestly claim that the representations of figurines from sites such as Dolnoslav (see Figs. 13.5–13.7 & 13.9–13.10), Sedlare and Omurtag (Gaydarska *et al.* 2005) set new standards for figurine illustration.

In this paper, we shall present an example of the life-history approach through the examination of a specific data set — a figurine assemblage from a single site in southern Bulgaria. We begin by setting the scene with a brief characterization of the site of Dolnoslav. We shall then turn to some more general questions that could benefit from a life-history approach:

1. How did people use the changes in principles embodied in figurines (gender, sidedness, verticality, etc.) throughout their life-times?
2. What can fragmentation studies contribute to the study of figurines?
3. What is the significance of right — left sidedness in figurine depositional practices?

The site of Dolnoslav

The prehistoric landscape of southern Bulgaria is dominated by settlement mounds (or 'tells') which stand out in the plains and lowland valleys as significant places, both for the coeval settlers and for their ancestors (Chapman 1997). Tell-formation implies the decision to return and live directly above where the ancestors had lived. There is an obvious bias in the recognition of tells as contrasted with flat settlements, which are much harder to find. Nonetheless, it is possible to identify phases in Bulgarian prehistory in which the decision to live on tells was more or less emphasized. While the Karanovo IV phase (the Late Neolithic) has few tell occupations, there is no doubt that the Karanovo VI phase (the Late Eneolithic) shows the highest density of tell occupation (Todorova 1979, karta 3). One of the tells occupied in two phases with a long intervening hiatus is the tell outside the modern village of Dolnoslav.

The Dolnoslav tell is located in the Maritsa valley, in the southern part of the Thracian plain. The tell measures 6.25 m in height and has an oval form, with basal dimensions of 105 m by 64 m. There are two main prehistoric horizons — the earlier, dating to the Early Neolithic, has not been investigated at all, while the Final Eneolithic horizon has been almost totally excavated by A. Raduntcheva and B. Koleva over nine seasons (1983–91) (Raduntcheva 1996; 2002; Koleva 2001; 2002).

The Final Eneolithic occupation (Fig. 13.1) was enclosed by a low dry-stone wall of river pebbles. Immediately inside the enclosing wall was an open area, partly explored, whose flat clay surface was coloured black through the admixture of manganese. This was separated from a second zone with clays of different colours in different phases by a narrow zone of fine river pebbles. Inside the open area was a zone of buildings, part of whose internal space was dug into the soil up to 0.30 m in depth. Within this zone was a group of buildings that were built upon the flat cleared surface of the tell. Finally, there were some structures in the centre of the site that were built upon an artificial platform 0.60 m in height. In this reading of the site plan, we can see a concentric pattern of structures, with an increase in the vertical dimension as people moved towards the centre of the site. This must have produced a very striking visual pattern of a relatively low mound in the plain with increasingly visible and dominant central structures.

When the Final Eneolithic group who re-settled Dolnoslav came to the site, they would have seen a low, ancestral mound that had not been occupied for about one millennium. The excavators recognized three phases within the overall Late Eneolithic occupation but the very first act of the new settlers was the construction of a platform measuring a maximum of 40 × 20 m in the centre of the mound. This operation could be termed the Pre-A Phase.

The platform acted as the foundation for seven structures built in the first phase of occupation (Phase A). A total of 21 other buildings were constructed on the flat surface of the mound. Only Buildings B1, B2, B3 and the central Shrine were fully investigated in their earliest phase (Phase A) of use. The plans of the buildings were generally rectangular or trapezoidal, with only one single circular structure (B18). The buildings were mostly one-roomed; only two are two-roomed.

In the second phase (phase B), all of the 28 structures in the site continued in use. A stone cobbled surface was laid down east of B10. The site was carefully planned to ensure easy access to each building, with an east–west running-path that divided the site into equal halves. The surface of the encircling open area was plastered with a black clay near the wall and a yellow clay towards the interior; it is believed that the dry-stone enclosure wall was by then in existence.

A major change in the arrangement of the structures took place in the third phase (Phase C). In the southeast part of the mound, three buildings (B14, B15 & B20) were dismantled and their remains, including their Phase B finds, were covered with a deposit of earth mixed with daub, much charred grain and including much other material culture. This deposit is the midden D3 ('middens' are referred to as 'depots' in the figures) and covered an area of *c.* 15 × 15 m. The demolition and sealing of these three buildings created a large open area in the southeast part. This is thought to have resulted in the construction of a new entrance on the south side of the enclosure wall. Despite these changes, the majority of buildings (25 structures) in the inner area continued in use. In this phase, the inner open areas between the houses were plastered with a mixture of red ochre and clay to produce a striking red surface. The surfaces of the outer open areas near the enclosure wall were plastered with a grey-green clay with various other coloured nuances, that was shaped into various bas-relief shapes (Raduntcheva 1996), with the black manganese-rich clays still between this zone and the enclosure wall.

After some time had elapsed, all of the remaining 25 buildings were deliberately burnt down, together with their rich and varied contents. This could be termed the Post-C Phase. The mass of burnt building materials created a destruction deposit that was up to 1.5 m thick in some places. Part of this ritual closure of the site included the middening of large quantities of earth mixed with daub and containing much material culture in three parts of the inner area: middens D1 and D2 were deposited on the east–west path, while midden D4 was deposited south of B1 and B2. The excavators suggest that, after this act of closure, the building remains were covered with soil and the mound was plastered with white mineral. Much of the details recorded in the excavation therefore refer to the closure of the site — the destruction of the Phase C structures and internal features, as well as the destruction of three structures and their closure under midden D3.

In terms of the five phases of the sequence at Dolnoslav, the vast majority of artefacts was deposited in Phase C, with the destruction of the buildings transforming them into a series of more or less sealed 'death-of-building' assemblages. For example, from a total of over 500 figurines, none was placed in the initial platform, only four were deposited in the first phase, fewer than ten in the second phase and over

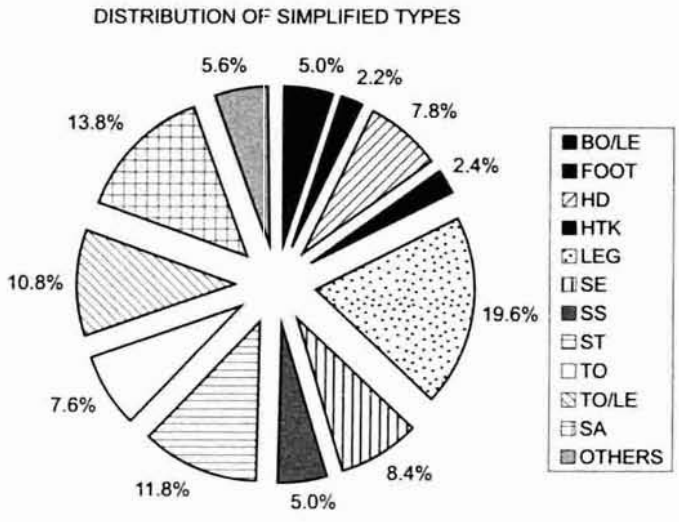

Figure 13.2. *Distribution of simplified types of figurines, Dolnoslav tell.*

480 in the third phase. One major exception is the large quantity of pottery mixed with the earth to form the initial building platform in the Pre-A Phase.

As a final but vital introductory point, there are very few grounds for believing that the finds placed in the destroyed buildings of the second and third phases constitute in any sense a 'living assemblage' of artefacts that 'reflected' the social and economic activities of the inhabitants of the Dolnoslav mound. Most of the finds represent deliberate collection of objects for deposition in a wide variety of contexts. The time dimension of the collection of such assemblages should not be under-estimated.

The figurines from Dolnoslav

Fired clay figurines were the third most common artefacts on Dolnoslav tell, after antler tools and pottery. During the re-fitting study performed in the spring of 2004, 500 anthropomorphic figurines were analysed, omitting more than 200 clay zoomorphic, bone and marble figurines (for a more detailed presentation of the Dolnoslav figurines, see Chapman & Gaydarska 2006, ch. 6). They were divided into 24 'types' or body parts according to their morphological characteristics. The assemblage as a whole is typical for the Balkan Late Copper Age presenting some widespread types of figurines such as seated or standing figurines, as well as some less common types designed as single body parts, such as ear, bust or arm. The terms used to denote the types in the current study are based on the visual body part(s) and their position on each individual artefact, instead of attempting to link the figurines to any of the existing classification schemes. Thus, if a body and legs are present, the figurine is assigned as TOLE (i.e. torso and legs) rather than either as standing or as 'N 123 or class *fragment*, type *legs*' (Vajsov 1992, 41). The distribution of simplified types, in which the 13 types represented by less than 1 per cent are unified in the category 'Others', is given in Figure 13.2. The most common body part is the leg (Fig. 13.6), followed by hollow (SA) figurines, standing figurines (Fig. 13.8) and torsos with legs (Fig. 13.5). The majority of the figurines is medium-sized (61 per cent), followed by small figurines (34 per cent). Most of the fragments are proportional — medium-sized in length and small in width.

Five gender categories were identified on the basis of the gender traits present on the fragments. Female figurines were determined by the presence of breasts and/or incised pubic triangle (Fig. 13.4). For simplicity and because of the relatively low number of such examples, the ranking of the fragments by the number of traits — one or two — was avoided. Male figurines were determined by fragments with male members, while hermaphrodite fragments have both female and male attributes (Fig. 13.5). An interesting gender category is the unsexed group of figurines. They comprise figurines and body parts that might have been gendered but instead the makers chose to leave them unsexed. The last gender group is the group with fragments with no gender information, that consist of body parts that usually do not have gender traits — e.g. heads, arms, legs etc. (Fig. 13.6).

Of the three main contexts in which clay anthropomorphs were found — buildings, middens and open areas, the majority of the figurines is deposited in the middens (n = 208 or 41 per cent). There are fewer figurines from the buildings (n = 179 or 36 per cent) and significantly fewer examples from the open areas (n = 113 or 23 per cent). The number of figurines deposited in one building varies from 1 to 17 but the mode is 7, found in five buildings; the number of types deposited in one building varies from 1 to 9.

The life-histories of figurines

The study of artefact biographies seeks to identify the social implications of the multiple activities performed on certain objects after their production. Many figurines from Dolnoslav tell (n = 213 or 42 per cent) have features that are the result of either pre-fragmentation or post-fragmentation treatment or both. Our observations on the production of the 'raw' figurine bodies will be presented elsewhere (Gaydarska *et al.* in prep.). In this section, we summarize the evidence for modification of the raw bodies in the form of a *chaîne opératoire*.

Figure 13.3. *Right buttock and leg showing incised motifs with white incrustation and red crusting (Museum no. 2992 – H: 11.6 cm, W: 3.9 cm, TH: 2cm).*

Figure 13.4. *Re-fitted upper torso and TOLE with secondary burning on left side (Museum no. 4307 — H: 17 cm, W: 3 cm, TH: 4.6 cm & Museum no. 3681 — H: 5.6 cm, W: 5.3 cm, TH: 4.6cm)..*

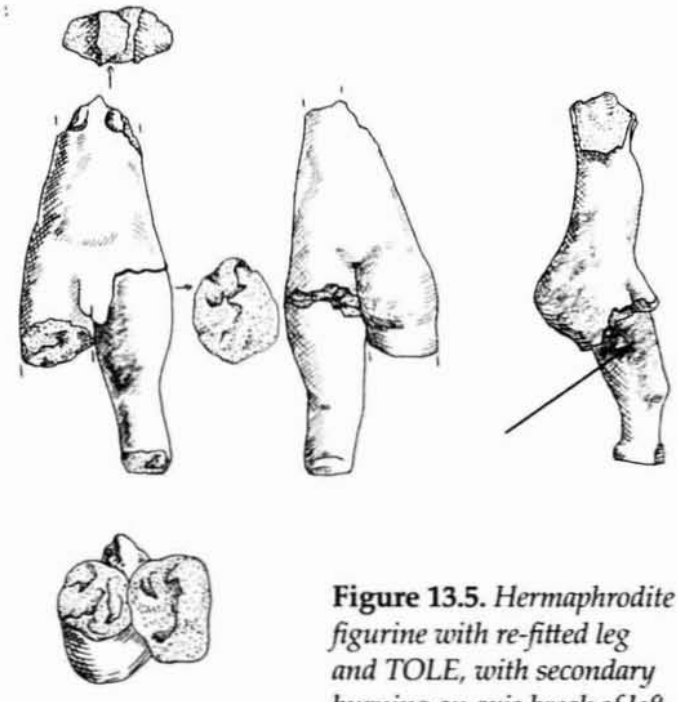

Figure 13.5. *Hermaphrodite figurine with re-fitted leg and TOLE, with secondary burning on axis break of left leg (Museum no. 587 — H: 5.5 cm, W: 2.3 cm, TH: N/A & Museum no. 590 — H: 7.5, W: 3.5, TH: 1.3).*

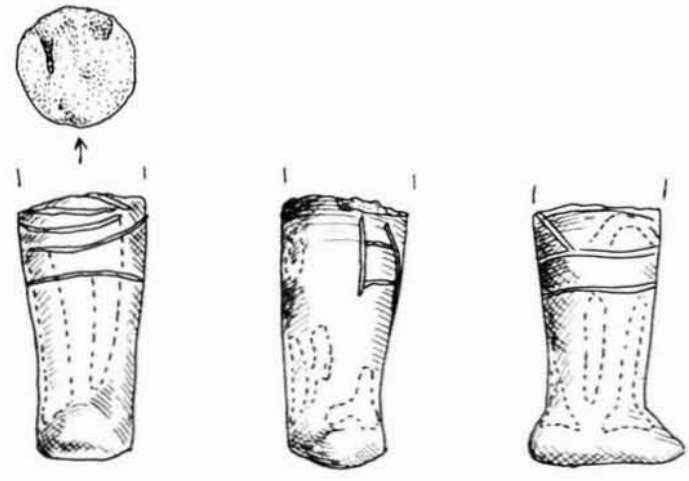

Figure 13.6. *Right foot and lower leg with incised motifs and white & red crusting on axis break (Museum no. 2900 — H: 4.6 cm, W: 2.8 cm, TH: 2.2 cm).*

Pre-fragmentation activities

The first stages in the 'cooking' of the figurine body produce three sorts of contrasts between different parts of the figurine body: 1) matt/gloss contrasts; 2) colour contrasts (two types — different colours of firing and contrasts between the background figurine and the red and/white crusting) (Fig. 13.3); 3) burnt/unburnt contrasts (a few fragments were exposed to secondary burning before later fragmentation) (Fig. 13.4). The presence/absence of these stages can be related to the different forms of figurines, their different genders and the position of the modification(s) in terms of sidedness, verticality, front-and-back, etc. (cf. Biehl 2003).

Fragmentation

The next stage or — more often — series of stages — in the *chaîne opératoire* concerns the breaking of the figurine into two or more parts and, successively, into more parts still. As this discussion develops, it will become clear that *the only way* to explain the data is through deliberate acts of fragmentation.

The vast majority of figurines deposited on the tell were broken (96 per cent). More than half of the complete examples show a clustered deposition in just a few contexts. The ratio of 'complete:fragmented figurines' is equal or very similar for all types of context in relation to the whole assemblage. This proportional distribution of complete and broken objects suggests a common message about the relative importance of integral and fragmented images in all parts of the site: social integration is as important as diverse enchained relations. Each surface break showing a fracture or adjoining fractures (rarely two and even more rarely three) that could have been made by a single blow to the figurine was considered to represent a 'break'. Adjacent 'breaks' that could not have been produced by the same blow were designated as two 'breaks'.

More than half of the figurines have two (28 per cent) or three (31 per cent) breaks (Fig. 13.10). Fragments with one break are fewer (16 per cent), which may be an indicator for the potential of further fragmentation activities (Fig. 13.5, the leg). In contrast, figurines with 4 breaks (15 per cent) represent the late or even the final stages of the fragmentation chain (Fig. 13.7): around 10 per cent of the fragments have five or more breaks (Fig. 13.9, the torso).

The relationship between fragmentation and gender is often complex. Thus, if a figurine with a gendered body and four ungendered limbs has all four of the limbs broken off, creating a gendered body and four limbs, the body would be designated as having four breaks, and each limb be designated as having one break. Most figurines with no gender information have suffered two breaks. Most of the female fragments have three breaks (Fig. 13.4, the lower part), as do many unsexed figurine fragments (Fig. 13.3). Therefore, there is an equal possibility of a fragment either preserving or losing its gender after a third break. In that sense, any body fragment that has passed the third break point without loss of gender may be considered as a body part with targeted gender preservation. The unsexed figurines are dominated by fragments with three breaks; after three breaks, the message of a deliberate denial of engendering is still very clear. It is important to underline that the number of breaks does not affect the gender of the figurines. There are extreme examples of single fragments with up to seven to eight breaks, which preserve their gender even after such intensive fragmentation, while, at the same time, there are cases where a single break removes gender information from one new fragment. Therefore, it could be assumed that the changing of gender may have been one of many goals, but certainly not the only aim of fragmentation practices.

The principle of sidedness enshrines oppositional symmetry and mirror imagery from the outset. Whereas all complete and some broken figurines maintain the integration of opposites (Fig. 13.8), a broken figurine selects for neutrality as to sidedness or a deliberate preference for right- or left-sidedness. In terms of the social action that a figurine performs, a right-sided fragment puts into play the choice of a side with distinctive symbolic connotations for the society in question (Fig. 13.3). It would be unwise to generalize the results of Needham's (1973) global review of right and left in human societies, even in societies based upon the moiety principle of complementary opposition. We should recall that the perception of left and right is not only culturally specific but also relational (e.g. seasonal) and that, in addition, there are multiple examples of reverse associations (e.g. left is sometimes good!). We may re-phrase the effects of fragmentation thus: while a complete figurine maintains the sidedness principle as immanent, fragmenting the figurine brings the principle into social action.

The same is not exactly so for verticality, since this principle is based upon oppositional asymmetry *ab initio*. Thus, the contrast between the head and the rest of the body, and especially the legs, can only be heightened by fragmentation of the figurine — most dramatically in the case of Hamangia figurines, that change gender when the phallic, masculine neck is detached from the female lower parts of the body (Chapman 1999; Chapman & Gaydarska 2006, ch. 3). Here, the principle of verticality differs dramatically from that of sidedness — a contrast with much potential in advanced stages of a figurine's life-history.

Post-fragmentation activities

Post-fragmentation activities are of potentially major significance, since they can demonstrate unequivocally the continued use of figurine parts after their fragmentation. Secondary burning and decoration on breaks occur frequently at Dolnoslav, as do traces of wear, often heavy, on breaks after prior fragmentation.

The most common post-fragmentation activity is the secondary burning traceable on 30 fragments (Fig. 13.5). They were found in all contexts — buildings, middens and open areas — and very few examples can be explained by burning during the last destructive fire. The majority of the breaks are on the left/right axis and leg or bottom (Table 13.1a). There are only three fragments with secondary burning on torso breaks — one has additional burning on the lower torso, the other — over the incised and encrusted decoration, the third over the breast break. A similar number of fragments have burning on arm and neck breaks (Table 13.1b).

Fourteen fragments were crusted with different paint over a variety of different breaks — mostly using white paint but occasionally red paint and a combination of red and white (Fig. 13.6).

Wear over figurine breaks can be demonstrated to have occurred in several cases, indicating long and/or intensive usage after the break. In the illustrated example (Fig. 13.7), there are five breaks, four of which feature subsequent wear. However, most traces of heavy wear cannot be related to the fragmentation sequence. They are found on body parts that may have symbolized a specific activity — e.g. foot, heel or sole (walking), bottom (sitting), back of head (lying). In such cases, heavy wear may symbolize multiple performances of these activities, and hence the long life and experience of the figurine.

Despite the general uncertainty of the time of burning with regard to the fragmentation practice, there are some figurines on which secondary burning was applied before or after decoration, indicating different phases of the figurine's biography, each marked by a separate trace.

The re-fitting exercise

A fundamental aspect of understanding the processes of enchainment through fragmentation was a series

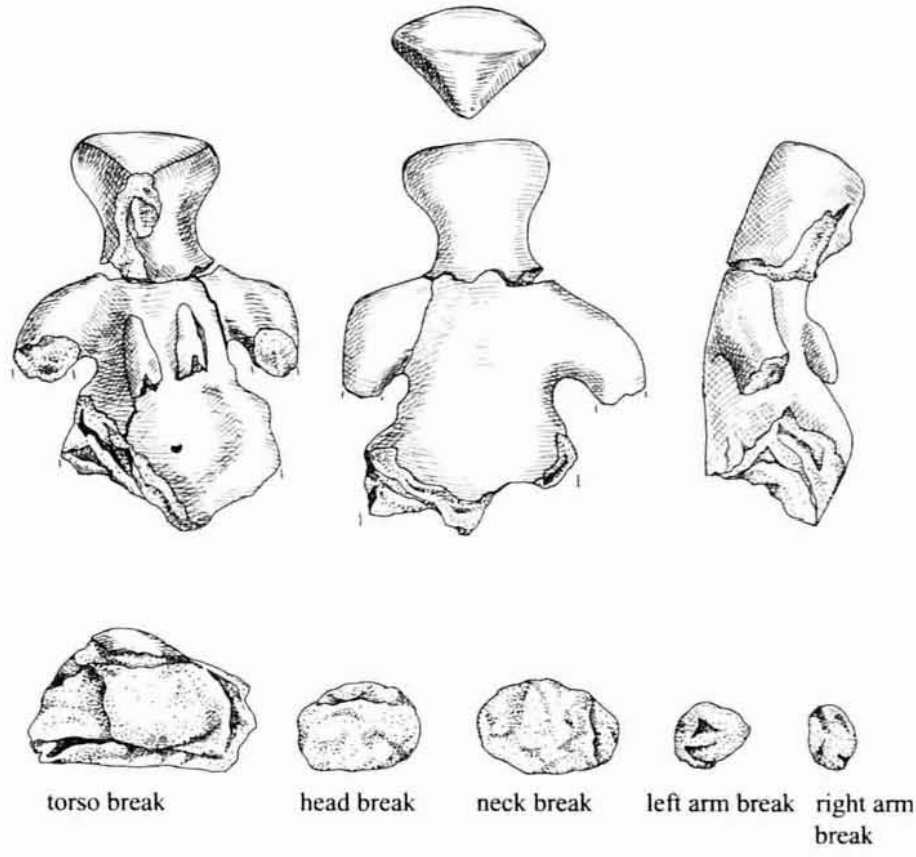

Figure 13.7. *Re-fitted figurine with wear on all breaks (Museum no. 4688 — H: 4.6 cm, W: 4.5 cm, TH: 3.3 cm & Museum no. 5335 — H: 8 cm, W: 8.7 cm, TH: 3.9 cm).*

Table 13.1a. *Fragments with secondary burning on axis break.*

Type of break	No. of examples
Axis break	3
Axis break and top front leg	1
Axis break and back of leg	1
Axis break and right leg	1
Axis break and right side of leg and leg	1
Axis break and leg and bottom	1
Axis break and bottom	7

Table 13.1b. *Fragment with secondary burning on arm or neck break.*

Type of break	No. of examples
Arm break and left side of torso	1
Arm break and bottom	1
Arm break and bottom and back	1
Arm break and on front after incised decoration	1
Arm break and on front below face	1
Neck break and right arm	1
Neck break and right arm and back	1
Neck break and right ear and right neck	1
Neck break and right ear and face	1

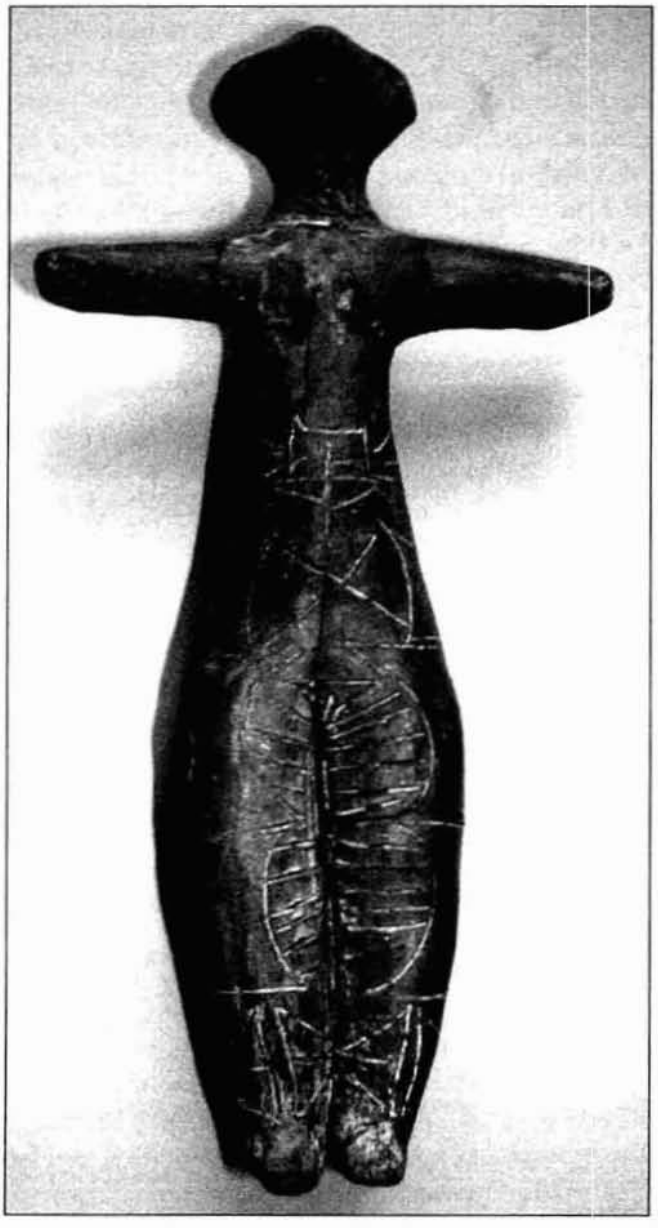

Figure 13.8. *Figurine re-fitted from four parts on site; the four parts were arranged symmetrically around a brown coarse ware storage jar (Museum no. 540 — H: 17.5 cm, W: 8.7 cm, TH: 2 cm).*

of re-fitting studies completed on various materials at different sites. One re-fitting experiment involved the Dolnoslav figurines (for gender and number of breaks of illustrated figurines, see Table 13.2). A few figurines were re-fitted during the excavation from fragments that were found in adjacent contexts (Fig. 13.8). During the new refitting study, another 25 joins between fragments were identified. From a total of 474 fragments, 52 form 25 conjoint examples (Figs. 13.4, 13.5 ,13.7, 13.9 & 13.10). This is a relatively high percentage (11 per cent). None of the joins makes a complete figurine; there are three that form 95 per cent completeness with a head or an arm or both still missing. Thus, parts of even these re-fitted figurines were deposited somewhere off the tell.

Most of the joins are between fragments found in buildings and middens (n = 8), six of which are between fragments deposited during the last phase C. Only three joins are found between fragments found in different buildings, while there are four joins between fragments found in the buildings and the open areas — one between a phase B and a phase C fragment. There are three joins between fragments found in middens and open areas but only two joins have both matching parts deposited in different open areas. Two joins occur between fragments deposited in phase A and fragments deposited in phase C. It is important to note that re-fitting is documented for *both spatial and diachronic links* of deposition.

The conjoint figurines were coded as female in 15 cases, with six intentionally unsexed, one hermaphrodite and three with no gender information. Seven figurine fragments maintained their gendered identities through the act of fragmentation (five females and two unsexed) while three fragments continued to lack gender information. All the others suffered partial loss of gender information in four ways:

1. Three of the female fragments were each transformed into one female fragment and one unsexed fragment.
2. Seven of the female fragments were each transformed into one female fragment and one or two fragments lacking gender information.
3. One hermaphrodite was transformed into one hermaphrodite fragment and one fragment with no gender information.
4. Four unsexed fragments were each transformed into one unsexed fragment and one lacking gender information. This result reinforces the frequency of the unsexed figurines and stands in contrast to the pattern of Hamangia figurines' gender changes through breakage.

More than a third (n = 20) of the conjoint body parts had two breaks, followed by fragments with three breaks (30 per cent) (n = 16); relatively few fragments had only one (n = 5) or more than three (n = 13) breaks. In general, however, there are more parts of joins that revealed a developed or final stage of fragmentation. It is very important to underline that a relatively high percentage of the refitted parts was deposited after one or two breaks — at a relatively early stage of their potential biographies. The majority of breaks have suffered little pre-depositional wear, suggesting that the period between the breakage, the 'use' and the final deposition of figurines was not very long. Alternatively, between the initial stage — the fragmentation — and the final stage — the deposition, the already broken parts were not treated in a way that leaves any traces of wear. However,

six refitted fragments do have traces of wear on their breaks (as on Fig. 13.7). Two of them are worn in more than one place, suggesting a complex life-history.

The most important single conclusion from the re-fitting study is that it provides strong support for the premise of deliberate figurine fragmentation. It is inconceivable that accidental breakage produced this spatial pattern of deposition in two or even three contexts and across two phases of site use.

The life-history of a single re-fitting

Some of the re-fitting figurine fragments also provide valuable insights into the *chaîne opératoire* of the Dolnoslav figurines. A single example will serve to illustrate the potential of this approach to prehistoric figurines in general.

Join 6 consists of two fragments — a head with a top knot found in D1 and upper torso found in building 24 (Fig. 13.9). The head has incised eyes and a mouth and the front of the neck is decorated with incised motif 108. The torso also has incised decoration on front and back — motif 174 (for catalogue of motifs, see the website: http://ads.ahds.ac.uk/catalogue/resources.html?partwhole_ba_2006). The head has no gender information, while the presence of breasts on the torso indicates a female figurine. The head has only one irregular break at the neck in contrast to the seven breaks on the torso. Three of them are irregular — on the neck and on both arms, and three are just flakes detached from the back and both breasts. The seventh break, which is at the point of detachment from the lower torso (the waist), is complex and worn.

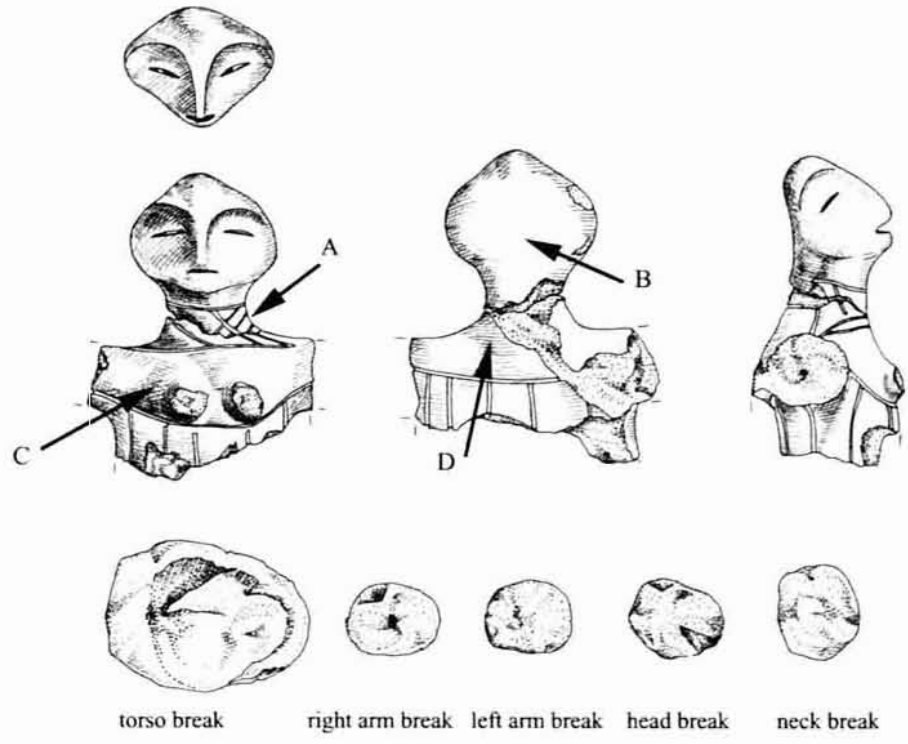

Figure 13.9. *Figurine re-fitted from two parts: A) graphite linear decoration; B) worn part of head; C) burnishing on front of torso; D) smoothed back of torso (Museum no. 3902 — H: 5.4 cm, W: 8 cm, TH: 4.8 cm & Museum no. 3357 — H: 5.6 cm, W: 5.6 cm, TH: 4 cm).*

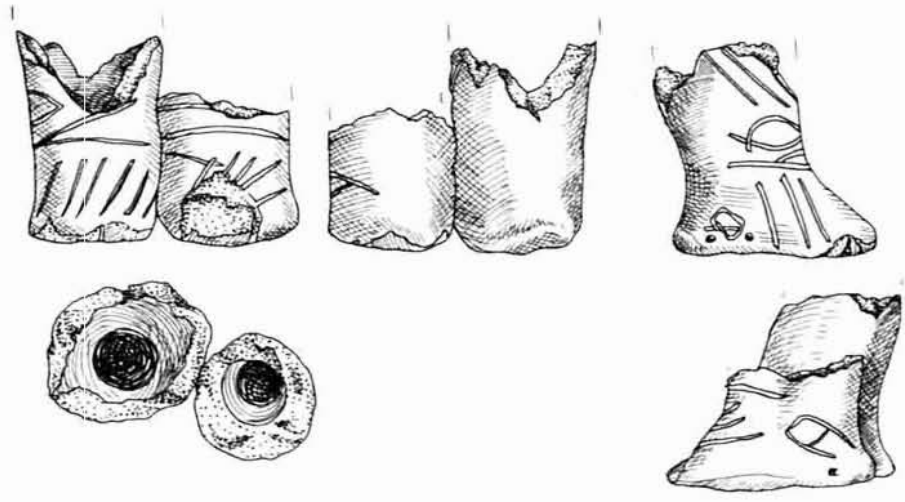

Figure 13.10. *Re-fitted left and right hollow feet and lower legs, fragmented at uneven heights (Museum no. 2206 — H: 5.4 cm, W: 5.6 cm, TH: 4 cm & Museum no. 2207 — H: 3.4 cm, W: 5.6 cm, TH: 3.5 cm).*

Additional features on the fragments are graphite on the front of the neck, traces of wear on the back of the head, the burnished front of the torso and the smoothed back of the torso. Therefore at least four different activities were performed on the fragments from join 6 — graphite application, wear, burnishing and smoothing. There are visual overlaps between two of the treatments — the application of graphite and the burnishing both result in black shining surfaces. The fact that two techniques were applied to achieve similar effect suggests the possibility that these operations were executed after the head was detached from the body. Otherwise, it

Table 13.2. *Descriptions of illustrated figurines by gender type and number of breaks.*

Fig. no.	Museum no.	Gender type	No. of breaks
13.3	2992	unsexed	3
13.4	4307	female	4
13.4	3681	female	3
13.5	587	no information	1
13.5	590	hermaphrodite	4
13.6	2900	no information	2
13.7	4688	no information	3
13.7	5335	female	5
13.9	3902	female	7
13.9	3357	no information	1
13.10	2206	no information	2
13.10	2207	no information	3
13.13	2302	no information	2
13.13	2835	unsexed	3

would be difficult (but not impossible) to perform either manipulations on one part (e.g. burnishing of the torso) without leaving any traces on the other. We cannot exclude the possibility that different body parts *had* to be treated differently, in which case these techniques were performed on a more or less complete figurine. In any case, it is clear that the front of the figurine was deliberately treated to present one part in colour and matt/gloss contrasts. The other part consists of the relatively rough back (a worn head and smoothed but not burnished back with detached flake) in opposition to the carefully treated front. Even if the body parts were treated as fragments (head and torso) rather than as a whole, the front/back opposition remains significant.

From the moment of its creation to the moment of its final deposition, the head has passed through three major manipulations — detachment from the body, application of graphite and wear. Much more varied was the life-history of the upper body part. It has been transformed at least nine times — four major detachments from the head, lower torso and both arms, four minor detachments from the back and both breasts, burnishing, smoothing and wear. The only secure sequence of activities is that burnishing and smoothing took place before the detachment of the flakes — otherwise, the polishing activities would cover the places of detachment. It is important to point out that the removal of the breasts does not change the gender of the figurine; although the breasts are absent, their traces are indicative of female affiliation. This is in contrast to the Hamangia figurines where breakage can erase any traces of previous gender. The question of why the breasts were removed can be approached by putting the answer in the perspective of de-gendering by breakage — the most famous of which is the case of Hamangia figurines. Since the body morphology of the vast majority of Dolnoslav figurines does not imply androgyny, single or indeed series of breaks cannot readily erase the initial gender. There are, however, some activities like smoothing and burnishing that may have aided the full de-gendering of the figurine. The fact that they were not undertaken suggests that full de-gendering was not sought before the final deposition of the upper body part in building 24, 5–7 m from the head, deposited in D1. There are at least three remaining body parts that were not deposited on the site.

Implications

There are important implications of the fragmentation and re-fitting study:

A. their relevance to deliberate fragmentation;
B. their significance for enchainment;
C. their implications for movement of figurines between sites and off-site to on-site.

Sceptics of deliberate figurine fragmentation are obliged to answer the question 'Where are the missing fragments?' — a question few have tried to tackle yet, let alone answer convincingly. It is clear that, on a site excavated without sieving, full recovery of microliths and small copper objects is improbable. But our Balkan colleagues have a strong interest in figurine fragments, most of which are more than 1 cm in width and often several cm in length. It would be unwise to seek a solution to the question of the missing fragments by blaming poor recovery techniques. Moreover, a tiny proportion of vessels in the Balkan Chalcolithic have grog temper (temper made from fragments of broken ceramics) and there is scanty evidence for manuring scatters involving ceramic being spread onto fields. If we eliminate these three possible explanations of the disappearance of figurine fragments, we are left with very few — possibly no — alternatives to the core principal premise of fragmentation studies — that people broke figurines into two or more parts and used the parts (standing for the wholes) in further social practices.

There are also a number of figurines whose manner of breakage is virtually impossible unless it was deliberately conceived. This notion is particularly applicable to hollow figurines, such as the joined hollow legs broken at different heights (Fig. 13.10). Other cases include figurines broken axially to provide a back half and a front half. The idea of specialist figurine-knappers has been proposed to account for such skilled practice (Chapman 2000).

The fragmentation premise is supported by at least two further observations presented here — the

post-fragmentation treatment of the fragments and their deposition in different parts of the site. Either observation demonstrates the continuing use of fragmentary figurines. It is manifestly absurd to believe that red and/or white crusting could have occurred accidentally on figurine fragments. Heavy wear is equally difficult to reproduce accidentally. The location of burning on many fragments makes it impossible for it to have occurred during the final burning of the buildings; in any case, secondary burning on fragment breaks occur on figurines deposited in the middens, that were not burnt *in situ* but which incorporated ash, as well as in open areas that were not burnt at all.

How could fragments from the same figurine have been discarded in different parts of the site? Schiffer, O'Sullivan, Skibo and many collaborators in the USA have worked long and hard on this question and they have documented many means whereby materials move around a site after initial discard (Schiffer 1987; Skibo *et al.* 1989; Sullivan *et al.* 1991). Children are a potent source of fragment re-location but all residents (human and animal) may be responsible. While this argument may explain the movement of figurine fragments into open areas of the site, it is unlikely to be relevant to the deliberate filling of middens and buildings-to-be-burnt. Moreover, the use of figurines in key social practices may have placed a prohibition on random or accidental displacement. Most of the American research related to discarded sherds and lithics, whereas ritual objects do not play a part in this research. The random/accidental relocation idea also cannot explain the re-fitting of fragments across occupation phases; here, we are dealing with deliberate curation of fragments to reinforce trans-generation ties of enchainment. While the accidental/random relocation idea cannot be rejected for all fragments, it is much more probable for the majority of figurine fragments that each fragment was deliberately placed in a different context to provide a material basis for enchainment.

The notion of enchainment has been mentioned several times in this paper and was deployed in a weak sense in the 2000 book. There, it was argued that enchainment was one of the most likely explanations as to why object fragments went missing. But extensive reading has failed to discover a general principle to replace enchained relations to explain the cases of missing fragments in totally excavated sites, or closed entities such as graves, ritual sets, costume sets, burnt houses and hoards. We are now persuaded that a closed context containing part of an object, with another part missing from that same context, is an indication of enchained relations between the context

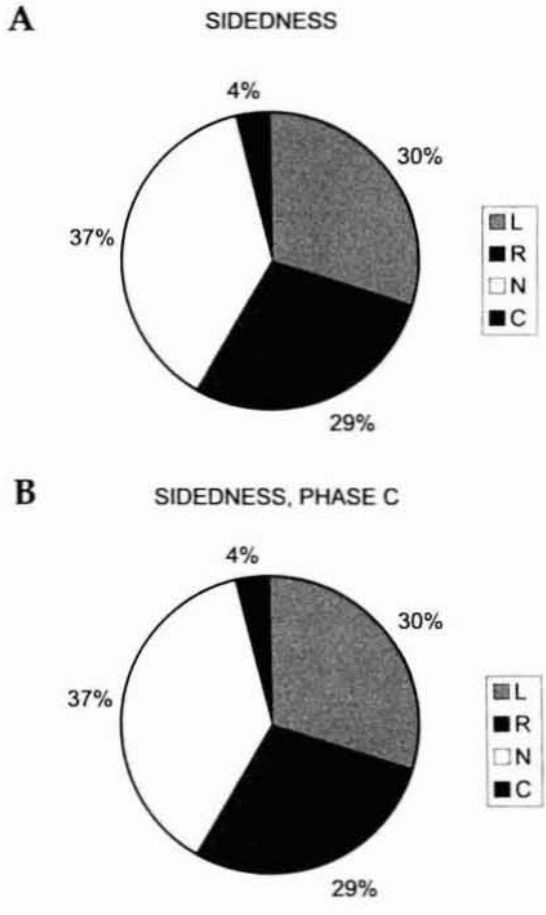

Figure 13.11. *Distribution of sidedness: A) all phases; B) Phase C; Key: L = left; R = right; N = neutral; C = no information.*

and somewhere else. The hard part is, of course, to find that elusive 'somewhere else'. But there is now accumulating evidence for inter-site as well as intra-site re-fits that cannot be disregarded by the sceptics (Chapman & Gaydarska 2006, ch. 5).

We now turn to the spatial implications of the large number of 'orphan' figurine fragments and, indeed, those re-fitted figurine parts that still miss further parts. Given the almost total excavation of the Final Chalcolithic levels of the tell, we are persuaded that a high proportion of figurine fragments are missing; in other words, the Dolnoslav assemblage is part of a much wider set of figurines, mostly fragments, deposited in other contexts, perhaps many other places — for example, other sites. The Completeness Index for the assemblage shows that the vast majority of anthropomorphic figurines are represented on-site by less than 50 per cent of their body mass. The difficult question for us and for all researchers into fragmentation is whether a complete figurine existed on-site, was broken and parts removed off-site, to another place, or whether complete figurines made in other places (off-site = other sites) were broken somewhere else and only parts of the figurines were brought for deposition

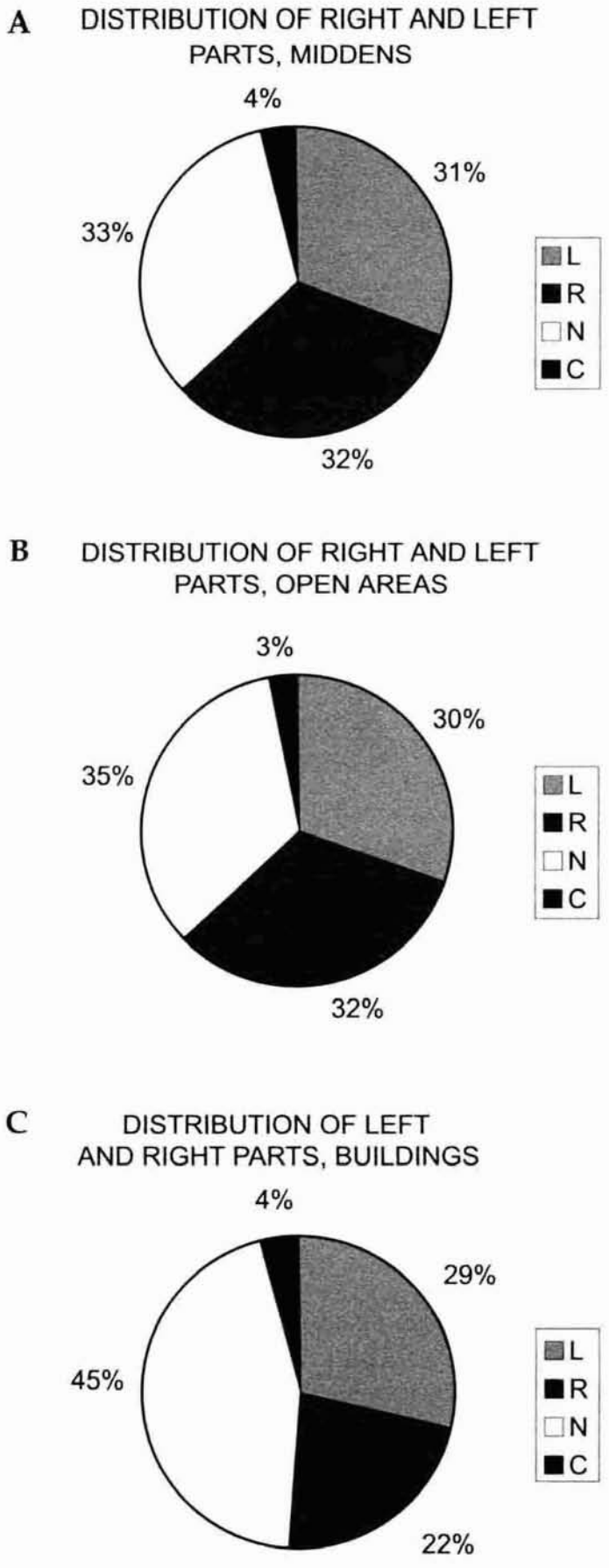

Figure 13.12. *Distribution of sidedness by context type: A) middens; B) open areas; C) buildings; key as Fig. 13.11.*

to Dolnoslav. One criterion may relate to the number of breaks suffered by the figurine and the extent of its surface wear prior to or subsequent to fragmentation. But we must admit that we find it hard to find criteria to answer this intriguing question that, from a fragmenterist's perspective, is logical but complex.

Right- and left-sidedness and the balance of deposition

We now turn to the third and final question concerning figurine deposition. One of the main principles underlying the deposition of figurines in Dolnoslav proved to be the left/right opposition. Complete figurines form 4 per cent of the assemblage. From the remaining fragments, the percentage of body parts that have no clear indication for sidedness is relatively high (37 per cent). These are fragments that are either entirely neutral to sidedness, such as heads or body parts that have both left and right side — e.g. both legs. However, more than half of the figurines (59 per cent) have some information for either left or right side; their relative distribution proved to be very similar — 30 per cent left parts and 29 per cent right parts, both overall (Fig. 13.11a) and in Phase C (Fig. 13.11b).

All categories — left, right and neutral are present in each context — middens, buildings and open areas. Together, the left and the right parts are dominant in both the middens and in the open areas with relatively equal distributions (Fig. 13.12a & b). A different pattern is observed in the buildings, where the left and the right part hardly exceed 50 per cent, and there is slight dominance of left over right parts (Fig. 13.12c).

The distribution of left, right and neutral parts in each of the middens is proportional to the total number of figurines in D1, D2, D3 and D4. The pattern of deposition shows a prevalence of right parts in D1 and D2, and prevalence of left parts in D3 and D4, which resulted in an overall balanced distribution of left and right parts in the middens (Fig. 13.12a).

The preference for deposition of neutral parts in the built area (Fig. 13.12c) is more obvious in the detailed distribution of body parts in the buildings, where 15 are dominated by neutral parts. The pattern of deposition is very complex. The overall pattern of distribution in the built area suggests that the left/right opposition was not the main depositional principle there. Or, more precisely, it was in conjunction with another depositional principle that finally produced the complex cumulative result.

Apart from the symmetries in the spatial distribution of the different body parts, there is a no less striking symmetry in left and right fragments as types. The similarities are found not only in the deposited left and right types but also in their numbers.

There are many ways in which to interpret the meanings of the right/left complementarity/opposition. Here, we wish to emphasize one main question of *deposition*. How is it that there is such a balance of right- and left-sided figurine fragments in the Dolnoslav deposition? Are we to believe that such balance at several different levels (site level, combined houses, combined middens, combined open areas, types of figurines) could have occurred by chance? If readers continue to believe — against the evidence presented here — that figurine fragments are simply rubbish, thrown away after use or discarded to destroy their remaining ritual power, then the accretion of single acts of discard over years or decades would be the normal (nul) response to the problem of right-/left-sided balance. But if any of our previous arguments have convinced the reader of deliberate fragmentation, then the problem of such a balance becomes more interesting, for the following potential reasons.

The vast majority of Dolnoslav figurines was discarded in two contexts, both of which showed the tendency to associate diverse types of material culture in a massive statement of accumulation — the burnt buildings and the middens. Such accumulations were the equivalent of burials in much of the Late Chalcolithic of Thrace. These contexts of accumulation gained meaning in three ways — by their associations with material remains, by the personal biographies that are attached to the things and by the presencing of associations and physical parts. The inclusion of a left TOLE (torso and leg) of a figurine in one midden whose right parts were placed in a building 30 m away links not only the parts of the figurines but their associated objects and *their* biographies in a complex network of significance — the enchained network that provided at once the structure of social practices in the site and the material means for the practices themselves.

The problem of the right-/left-sided balance can now be re-phrased: Were there many people who were aware not only of the general principle of the balance of sidedness but also of the importance of achieving a numerical balance of right and left parts in the different contexts of deposition and at the site overall? For example, individuals from each household who negotiate the location and type of figurines for deposition with those with the right (not a random use of the term!) to deposit material culture? These household ritual heads would have required meetings to coordinate such strategies and decide upon the nature of the next act of deposition. Or are there individuals (an individual?) who direct(s) such operations at the level of the entire community and maintain(s) counts of how many right-sided fragments have already been placed on such and such a midden? It is worth reflecting upon the existence of simple tallying methods that could readily be used to achieve these varying balances. As the reader may imagine, we find it problematic to pursue this line of reasoning too far but anyone left unsatisfied by the 'random dumping of rubbish' alternative will need to confront these difficult issues.

Conclusion

Our understanding of much recent research is that deliberate fragmentation is a fundamental feature of not only later Balkan prehistory but also of communities living in many other times/places. The evidence for deliberate fragmentation is increasing each year, both at the level of inter-site data and intra-site data, such that the social practice can no longer be ignored by anyone seriously interested in material culture. Through a combination of the *'chaîne opératoire'* approach with that of object biographies, we have used the Dolnoslav figurine assemblage to raise a series of what we hope are stimulating questions about the relationship between social practices and figurine life-histories. The Dolnoslav study supports the premise of deliberate fragmentation in four ways:

1. *Intra-site re-fitting of fragments from different depositional contexts.* The physical re-fitting of two or more fragments together, or even the probability at greater than 50 per cent of such re-fitting, means that there is a *prima facie* case that objects were deliberately broken and their parts deposited in different contexts, with the proviso that it is possible to rule out the movement of objects from their place of initial deposition to another place (e.g. by children, accidental movement or through erosion and re-deposition). Given the social significance of figurines, it is considered unlikely that such post-depositional movement occurred. Moreover, in the case of Dolnoslav, many contexts of deposition were more or less 'sealed' (i.e. burnt houses midden deposits), making such movement of fragments still harder to accept.
2. *Orphan figurine fragments whose related parts must have been deposited off tell or on other sites.* In cases where sites have been totally excavated with high standards of recovery, it is logical to accept that orphan figurine fragments have other parts that were taken off the site or, conversely, that the figurine was broken in another place and the orphan fragment was brought onto the site.
3. *Post-fragmentation decoration, wear and secondary burning over the breaks.* The continued use of figurines after the break can be well supported

when evidence for such activities is found on the breaks.

4. *Depositional practices of fragments leading to left/right balanced deposition in several nested spatial levels of analysis* (the site as a whole; middens as a whole; Open Areas as a whole; and buildings as a whole; also some individual houses, middens and Open Areas). This practice represents another important source of categorization, with interesting symbolic implications, which depends for its creation on deliberate fragmentation.

We hope that this study will provoke researchers into all kinds of images to consider breakage as something more than the inevitable consequence of accidental damage. There is much life left in a figurine 'after the break'.

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